Interprofessional Multiple Patient Clinical Simulation by Health Science Students, Designed to Change Practice.

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Conflict of Interest and Disclosure Statement

- Neither the planners or presenter indicated that they have any real or perceived vested interest that relate to this presentation.

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Objectives

1. The learner will be able to differentiate approaches to case development that facilitates collaborative clinical reasoning.

2. The learner will be able to identify strategies to infuse innovative teaching concepts into interprofessional simulation.

3. The learner will be able to determine how a well-designed simulation case can impact student attitudes and communication skills.

ECliPSE
Excellence in Clinical Interprofessional Simulation Education

History of EClipse

- Grass Roots Effort
- Case development
  - Reviewed existing sim cases
  - Cases chosen and redeveloped to ensure
    - Meaningful to each profession
    - Promotion of clinical reasoning

Disciplines

- Began with:
  - Nursing (BSN, ACNP)
  - MD
  - Pharm
  - Respiratory
  - PT
  - Medical Dietetics
- Additions over time includes:
  - Clinical Nurse Leaders, OT, Social Work, Speech

IPE Structure

- Rounding scenario emphasizing communication and teamwork – not skills
- Standardized patients vs. patient simulators
- Each session is 2.5 hrs long
- 20 sessions each semester over 4-5 days

- Format
  - Assessment
  - 1st Rounds
  - Interventions
  - 2nd Rounds
  - Debrief

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Simulation Design

- Clinical Reasoning
- Collaborative Clinical Reasoning
- Transformational Learning Principles

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Clinical Reasoning and Collaborative Clinical Reasoning

Clinical Reasoning

- "A complex process that uses cognition, metacognition and **discipline-specific** knowledge to gather, analyze and evaluate patient information" (Simmons, 2010, p. 1151).
- "A complex clinical decision process that involves discipline-specific knowledge, multiple types of thinking and reasoning skills" (Tyo & McCurry, 2019, p. 11).

Collaborative Clinical Reasoning

- Collaborative Clinical Reasoning occurs when:
  - "**2 or more healthcare team members** negotiate diagnostic, therapeutic, or prognostic issues of an individual patient resulting in an illness or treatment plan…." (Kiesewetter, et al 2017)
- CCR is defined through three key elements:
  - (1) Unshared knowledge of the individuals taking part in the process
    - Teams are structured to share information
    - All members share independently
  - (2) Communication - that is a back and forth between at least two individuals
  - (3) Goal is to come to a collaborative decision at the end of the process

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Learning Theory

- Informational Learning Versus Transformational Learning (Baumgartner,2001)
  - Informational learning
    - Knowledge and facts
    - "What we know"
  - Transformational learning
    - Interpret and reinterpret experience to make meaning
    - "How we know"
    - Gained most often in real world settings
    - Allows understanding of context in ones frames of reference

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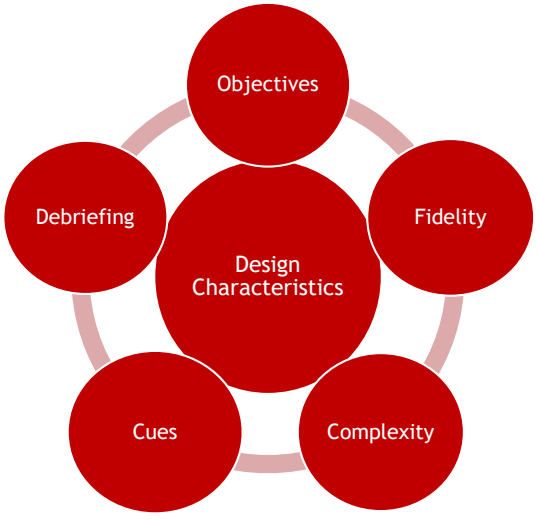
Simulation Design



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Goals and Objectives

- Create a climate of mutual respect and understanding
- Understand the roles and responsibilities of the other professions participating in the simulation
- Develop inter-professional communication skills
- Develop a multidisciplinary team plan of care to improve patient outcomes across the lifespan

- Evidence Supporting: Interprofessional Education Collaborative. (2016).

Core competencies for interprofessional collaborative practice: 2016 update.

Washington, DC: Interprofessional Education Collaborative.

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Bringing the case to life through simulation fidelity

Structure of a realistic simulated situation:

- Students are provided with little initial information
- Students are allowed to investigate freely and employ questions in any sequence
- Students should be given clinical information over time during the simulation

Standardized patient

- Development of standardized Script
- Moulage
- Realistic acute care environment

THE OHIO STATE UNIVERSITY

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Jill Shuman

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Ann Arbor

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Learning Through Case Complexity

- 10 different professions – at all levels of education
  - BSN/Graduate Nursing students
  - Undergrad Medical dietetics/Respiratory
  - Graduate/Doctoral – Social Work, Speech, PT, OT, Pharm, MD
- The complexity of care forces the student to reach out for information outside of their professional role

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Simulation Design - Cues

- Cases are purposefully built to provide cues
  - That require communication to determine possible actions
  - Multiple solutions for complex problems
- Cues built into the patient cases either based on information provided in the medical chart or given by the standardized patient
  - Cloudy urine
  - Lethargy
  - "I took my dressing off"
  - "I pulled out this tube"

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Debrief- often where the most learning occurs

- Now that the simulation is over, what questions do you have for another profession?
- Let's talk about the collaborations with the different professions during the simulation?
  - a. Who did you talk to? What did you talk about?
  - b. How did your conversations affect the patient's plan of care?
- Name one thing you learned about another profession.
- What will you do differently in practice as a result of this experience?
- Have you ever had any formal teamwork training? If so, please describe.

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Jill Shuman

- 53 y/o admitted to the hospital 4 days ago after being found unresponsive at home. R lower limb ischemia resulted from the fall which led to a R transfemoral amputation
- Currently on warfarin for Afib, CXR consistent with LLL pneumonia
- PMH – drug overdose; malnutrition; HTN, T2DM, hyperlipidemia, schizophrenia, bipolar disorder
- Social hx. – divorced, ETOH abuse, owns a farm with animals

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Collaborative Clinical Reasoning -Jill

- Coordination of Care- Alert care team to changes in conditions
  - Foley catheter removed by patient
  - Residual limb dressing – green purulent drainage
  - Patient complaint of neuropathic pain
  - Blood glucose control and management
- Communicate Evidence Based Care recommendations
  - Foley Removal to avoid UTI
  - Non-narcotic pain relief – patient has hx of opioid dependence
- Collaborate with care team
  - Pharmacy/ACNP - Medication management – pain management, anticoagulant therapy, ATB therapy
  - Respiratory – pneumonia interventions – incentive spirometry use, activity
  - Pain control – PT residual limb care, activity status
  - Social work - Home care needs

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Ann Arbor

- 25 y/o unrestrained driver in single car crash under the influence of alcohol
  - Sustained L femur fracture s/p ORIF, underwent emergent exploratory lap, open splenectomy.
  - R chest tube, NG, foley cath. Required vent support for resp. distress.
- PMH – unremarkable
- Social Hx – single, works in retail, lives with roommate

Collaborative Clinical Reasoning – Ann Arbor

- Process of Extubation for Ann Arbor
  - Coordination with Respiratory regarding SBT and ABG results
    - Ensure safe to remove from ventilator
  - Coordinating with PT regarding mobility
    - Evidence shows early mobilization decreases risk of Ventilator Associated Pneumonia
    - Discuss if Ann Arbor a candidate for early mobilization
  - Discussion with speech regarding swallow evaluation
    - Determine if able to tolerate oral intake
  - Consult with medical dietetics on diet advancement post extubation
    - Discuss advantages of early feeding
    - Rebuild lean body mass, hydration and initiate oral medications
  - Social Work
    - Alcohol counseling
  - Pharmacy
    - Immunizations d/t splenectomy

Willy Flan

- 46 y/o male brought into ED via squad due to collapse of unknown cause, SOB
- Admitting Dx: Altered Mental status, SOB, fluid overload
- PMH – PTSD, Hep C, Cirrhosis
- Social hx – Alcohol, Marijuana, tobacco abuse, homeless, military service
- Allergies – penicillin, latex

Collaborative Clinical Reasoning – Willie Flan

- Cirrhosis with spontaneous bacterial peritonitis
  - Complications from continued alcohol use
    - PT assessment for gait, encephalopathy
  - Malnutrition with complex dietary needs
    - Medical Dietetics Chart information, plus dietetics input
  - Appropriate treatment of infection –
    - Addition of steroids for improved outcome
    - Nursing, MD, Pharmacy Collaboration regarding significance of medication allergy

Student Outcomes

- Knowledge -
  - Didactic and knowledge of roles (professional role and that of others)
- Skill performance -
  - Competency is not the focus, communication is key to this simulation
  - Teamwork skills
- Learner satisfaction -
  - Debrief qualitative analysis
- Critical thinking
  - Reflections and debrief
- Self Confidence
  - Self-efficacy for critical thinking skills
  - Self-efficacy for professional role

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Plans

Research Plan

- Year 1: Attitudes and self-efficacy
- Year 2: RIPLS (Readiness for Interprofessional Learning Scale) (5 - 7 programs)
- Year 3: RIPLS (programs); discussion of teamwork in program
- Year 4: Grant application for teamwork training; peer teaching study; health literacy pilot data
- Year 5: Develop teamwork training; pilot data for new case
- Year 6: launch teamwork training; development of endocarditis case

Present and Future plans

- Health literacy
- Development of teamwork educational modules
  - Initiated this year and studying if teamwork modules has an effect on teamwork within the simulation experience.
- >4000 alumni evaluation
- **Culture Change!**

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